

What is claimed is:

1. A transmitting apparatus for transmitting a hierarchical structure of a directory for hierarchically managing locations of contents data, comprising:

managing means for managing a hierarchical structure of a directory composed of a container entry and a leaf entry, a container entry containing information in the immediately lower hierarchical level thereof, a leaf entry being disposed in the immediately lower hierarchical level of a container entry, a leaf entry not containing information in the immediately lower hierarchical level thereof;

detecting means for detecting a change of the hierarchical structure of the directory managed by said managing means and obtaining position information and identification information corresponding to the detected result, the position information representing the position of a container entry in the hierarchical structure of the directory, the identification information identifying a leaf entry corresponding to the hierarchical structure of the directory; and

transmitting means for transmitting the position information and the identification information.

2. The transmitting apparatus as set forth in claim 1,

wherein said detecting means obtains
difference information representing a change of the
leaf entries corresponding to the detected result of a
change of the hierarchical structure of the directory,
and

wherein said transmitting means transmits the
difference information along with the identification
information.

3. A transmitting method for transmitting a
hierarchical structure of a directory for
hierarchically managing locations of contents data,
comprising the steps of:

(a) managing a hierarchical structure of a
directory composed of a container entry and a leaf
entry, a container entry containing information in the
immediately lower hierarchical level thereof, a leaf
entry being disposed in the immediately lower
hierarchical level of a container entry, a leaf entry
not containing information in the immediately lower
hierarchical level thereof;

(b) detecting a change of the hierarchical
structure of the directory managed at step (a) and
obtaining position information and identification
information corresponding to the detected result, the
position information representing the position of a
container entry in the hierarchical structure of the
directory, the identification information identifying a

leaf entry corresponding to the hierarchical structure of the directory; and

(c) transmitting the position information and the identification information.

5 4. A receiving apparatus for receiving a hierarchical structure of a directory for hierarchically managing the locations of contents data that are transmitted, comprising:

10 receiving means for receiving position information and identification information, the position information being obtained by detecting a change of container entries, the position information representing the position of a container entry in the hierarchical structure of the directory, the
15 identification information identifying a leaf entry corresponding to the hierarchical structure of the directory, the directory being composed of container entries and leaf entries, a container entry containing information in the immediately lower hierarchical level thereof, a leaf entry not containing information in the
20 immediately lower hierarchical level thereof;

25 obtaining means for selectively obtaining the identification information of a leaf entry in the immediately lower hierarchical level of a container entry represented by the position information corresponding to selection information designated corresponding to the position information; and

managing means for managing the hierarchical structure of the directory formed with the position information corresponding to the selection information and with the identification information that is
5 selectively obtained.

5. A receiving method for receiving a hierarchical structure of a directory for hierarchically managing the locations of contents data that are transmitted, comprising the steps of:

10 (a) receiving position information and identification information, the position information being obtained by detecting a change of container entries, the position information representing the position of a container entry in the hierarchical
15 structure of the directory, the identification information identifying a leaf entry corresponding to the hierarchical structure of the directory, the directory being composed of container entries and leaf entries, a container entry containing information in
20 the immediately lower hierarchical level thereof, a leaf entry not containing information in the immediately lower hierarchical level thereof;

(b) selectively obtaining the identification information of a leaf entry in the immediately lower
25 hierarchical level of a container entry represented by the position information corresponding to selection information designated corresponding to the position

information; and

(c) managing the hierarchical structure of the directory formed with the position information corresponding to the selection information and with the identification information that is selectively
5 obtained.

6. A transmitting and receiving system for transmitting a hierarchical structure of a directory for hierarchically managing locations of contents data and receiving the transmitted hierarchical structure,
10 comprising:

first managing means for managing a hierarchical structure of a directory composed of a container entry and a leaf entry, a container entry
15 containing information in the immediately lower hierarchical level thereof, a leaf entry being disposed in the immediately lower hierarchical level of a container entry, a leaf entry not containing information in the immediately lower hierarchical level
20 thereof;

detecting means for detecting a change of the hierarchical structure of the directory managed by said first managing means and obtaining position
25 information, identification information, and difference information corresponding to the detected result, the position information representing the position of a container entry in the hierarchical structure of the

directory, the identification information identifying a leaf entry corresponding to the hierarchical structure of the directory, the difference information representing the difference of leaf entries;

5 transmitting means for transmitting the position information, the identification information, and the difference information;

 receiving means for receiving the position information, the identification information, and the difference information transmitted by said transmitting means;

10 obtaining means for selectively obtaining the identification information of a leaf entry in the immediately lower hierarchical level of a container entry represented by the position information
15 corresponding to selection information designated corresponding to the position information; and

 second managing means for managing the hierarchical structure of the directory formed with the
20 position information corresponding to the selection information and with the identification information that is selectively obtained.

7. A transmitting and receiving method for transmitting a hierarchical structure of a directory
25 for hierarchically managing locations of contents data and receiving the transmitted hierarchical structure, comprising the steps of:

(a) managing a hierarchical structure of a directory composed of a container entry and a leaf entry, a container entry containing information in the immediately lower hierarchical level thereof, a leaf entry being disposed in the immediately lower hierarchical level of a container entry, a leaf entry not containing information in the immediately lower hierarchical level thereof;

(b) detecting a change of the hierarchical structure of the directory managed at step (a) and obtaining position information, identification information, and difference information corresponding to the detected result, the position information representing the position of a container entry in the hierarchical structure of the directory, the identification information identifying a leaf entry corresponding to the hierarchical structure of the directory, the difference information representing the difference of leaf entries;

(c) transmitting the position information, the identification information, and the difference information;

(d) receiving the position information, the identification information, and the difference information transmitted at step (c);

(e) selectively obtaining the identification information of a leaf entry in the immediately lower

hierarchical level of a container entry represented by the position information corresponding to selection information designated corresponding to the position information; and

- 5 (f) managing the hierarchical structure of the directory formed with the position information corresponding to the selection information and with the identification information that is selectively obtained.

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